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PRIOR CORONARY ARTERY BYPASS GRAFT SURGERY IS ASSOCIATED WITH INCREASED MORTALITY IN PATIENTS WITH ST-ELEVATION MYOCARDIAL INFARCTION UNDERGOING PRIMARY PERCUTANEOUS CORONARY INTERVENTION

i2 Poster Contributions
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Session Title: PCI - Complex Patients, Diabetes, Renal Insufficiency
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Background: An estimated 500,000 new ST-elevation myocardial infarctions (STEMI) occur annually in the U.S. The impact of prior surgical (CABG) or percutaneous coronary (PCI) revascularization on the in-hospital outcomes of these patients has not been described. We sought to assess the effect of previous CABG or PCI on in-hospital outcomes in STEMI patients undergoing primary PCI and determine whether prior CABG is an independent predictor of adverse outcomes.

Methods: Between January 2004 and December 2007, a total of 1,649 patients underwent primary PCI for STEMI at four New York State hospitals. Baseline clinical and angiographic characteristics and in-hospital outcomes were prospectively collected as part of the Long Island Angioplasty Network and the New York State PCI Reporting System (PCIRS).

Results: Of the 1,649 patients studied, 93 (5.6%) had a prior CABG, 258 (15.6%) had prior PCI, and 1,298 (78.7%) had no prior revascularization. Patients with a prior CABG were older (67 years vs 62 years and 61 years, p<0.001) and had higher rates of peripheral vascular disease (13% vs 10% and 4%, p<0.001), diabetes mellitus (29% vs 27% and 15%, p<0.001), congestive heart failure (11% vs 10% and 6%, p=0.016), and prior stroke (11% vs 4% and 4%, p=0.011). They also had a trend towards worse ejection fraction (43% vs 44% and 45%, p=0.079). CABG patients were also noted to have more left main interventions (24% vs 2% and 2%, p<0.001) and lower rates of drug-eluting stent placement (47% vs 61% and 72%, p<0.001). With low rates of adverse in-hospital events, CABG patients were noted to have higher rates of all-cause in-hospital mortality (7% vs 3% and 2%, p=0.041). In multivariate analysis, prior CABG (OR 3.40, 95% CI 1.15-10.00) was independently associated with in-hospital mortality. Other independent predictors included age (OR=1.08, 95% CI 1.04-1.12, p<0.001), ejection fraction (OR=0.95, 95% CI 0.92-0.98, p<0.001) and peripheral vascular disease (OR=5.31, 95% CI 2.07-13.6, p=0.001).

Conclusions: Among STEMI patients undergoing primary PCI with contemporary techniques, prior CABG and peripheral vascular disease are the most significant predictors of in-hospital mortality.